

Supporting information for

Low cost, high efficiency flexible supercapacitor electrodes made from areca nut husk nanocellulose and silver nanoparticle embedded polyaniline†

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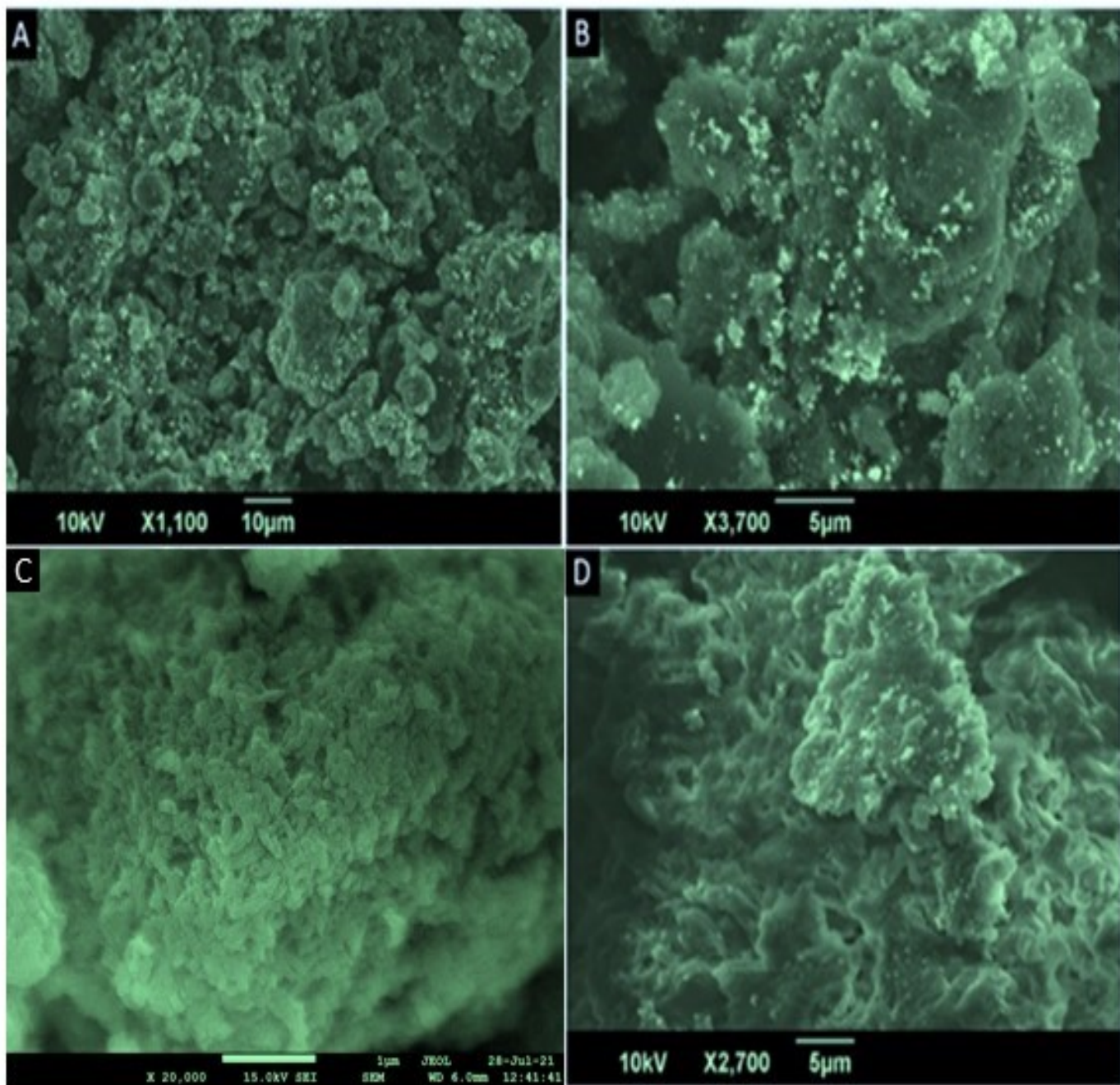


Fig. S1 SEM images of (A&B) Ag- PANI, (C) PANI-NC and (D) Ag-PANI-NC.

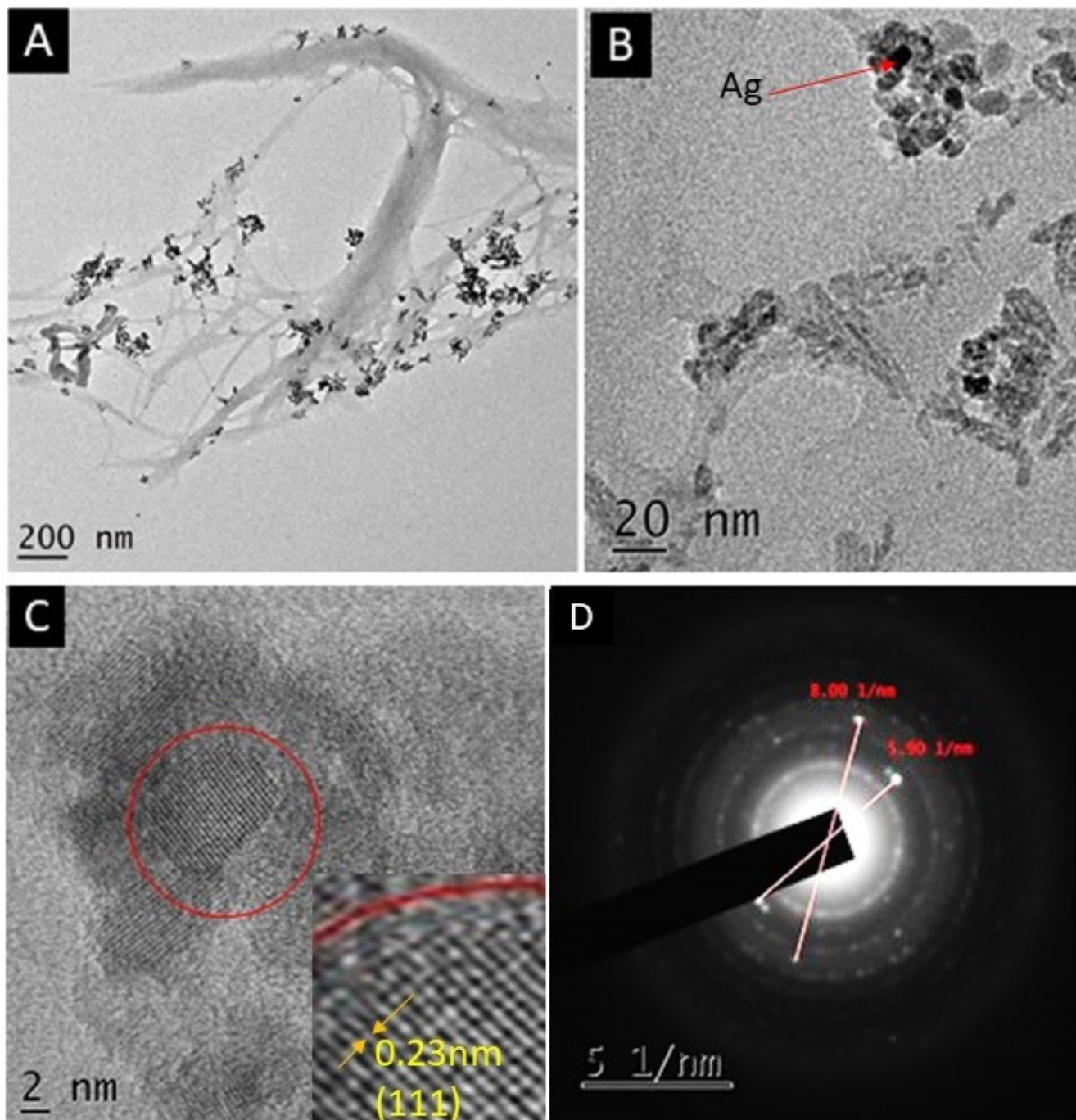


Fig. S2 (A) TEM image of Ag-PANI-NC composite, (B) TEM image of Ag nanoparticles decorated PANI on nanocellulose, (C) HRTEM image showing the crystal lattice spacing of a silver nanoparticle (inset) in the Ag-PANI-NC composite, (D) SAED pattern of Ag-PANI-NC composite.

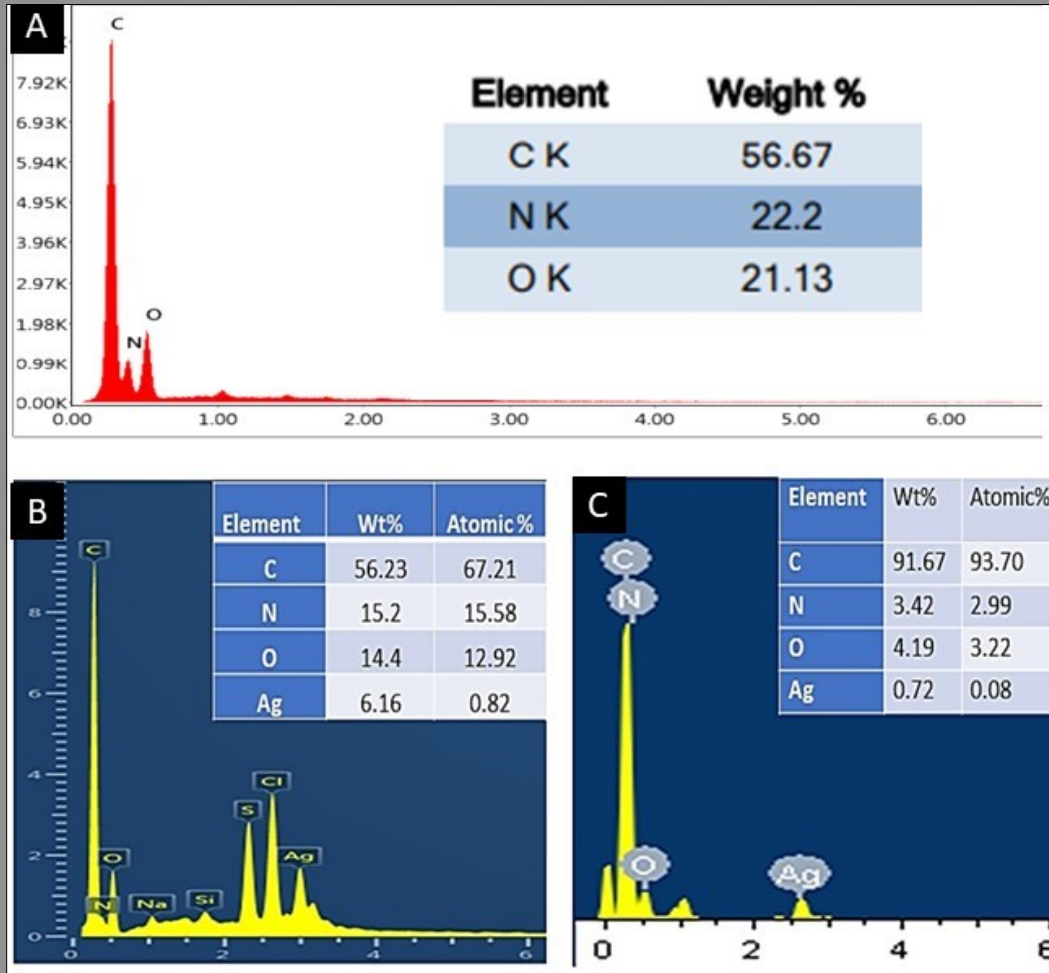


Fig. S3 EDX spectra of (A) PANI-NC, (B) Ag-PANI and (C) Ag-PANI-NC.

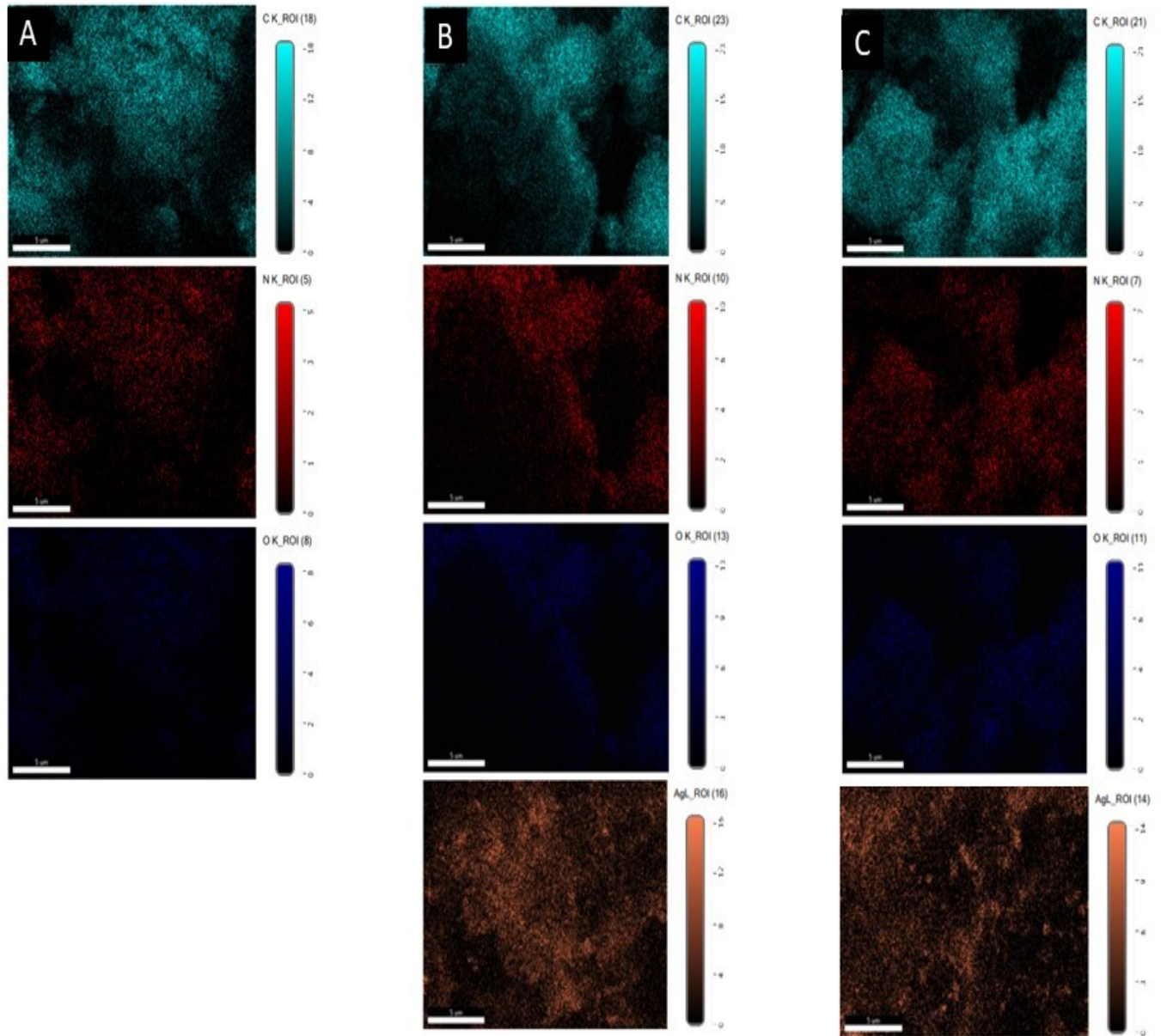


Fig S4: Elemental mapping of (A) PANI-NC, (B) Ag-PANI, (C) Ag-PANI-NC.

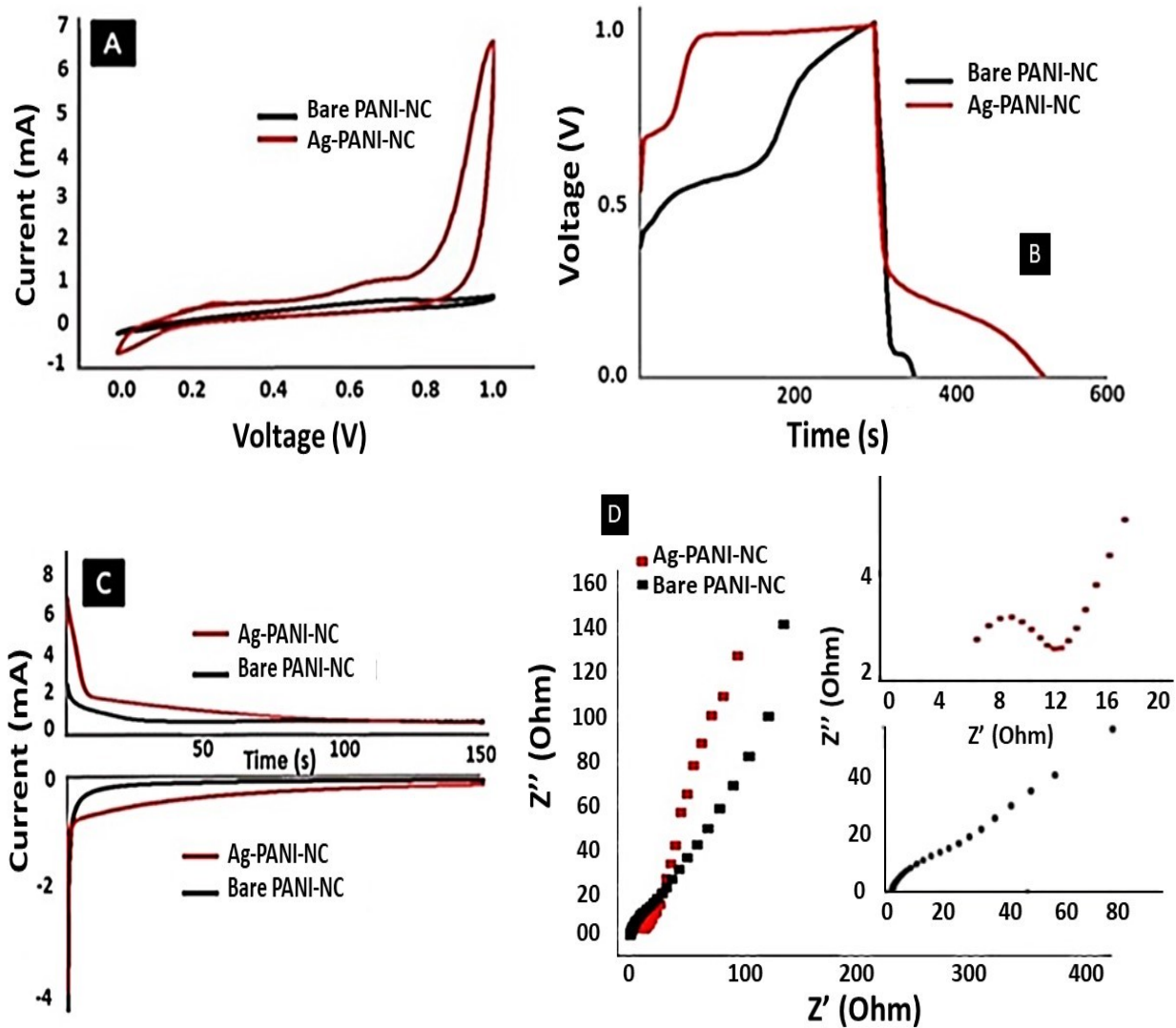


Fig. S5 Comparison of CV (A), GCD (B), CA (C) and EIS (D) graphs of bare PANI-NC (black curve) and Ag - PANI-NC composites (red curve). The inset of Fig. D shows the high frequency region of the EIS spectra of bare PANI-NC (black curve) and Ag-PANI-NC (red curve) in greater detail.

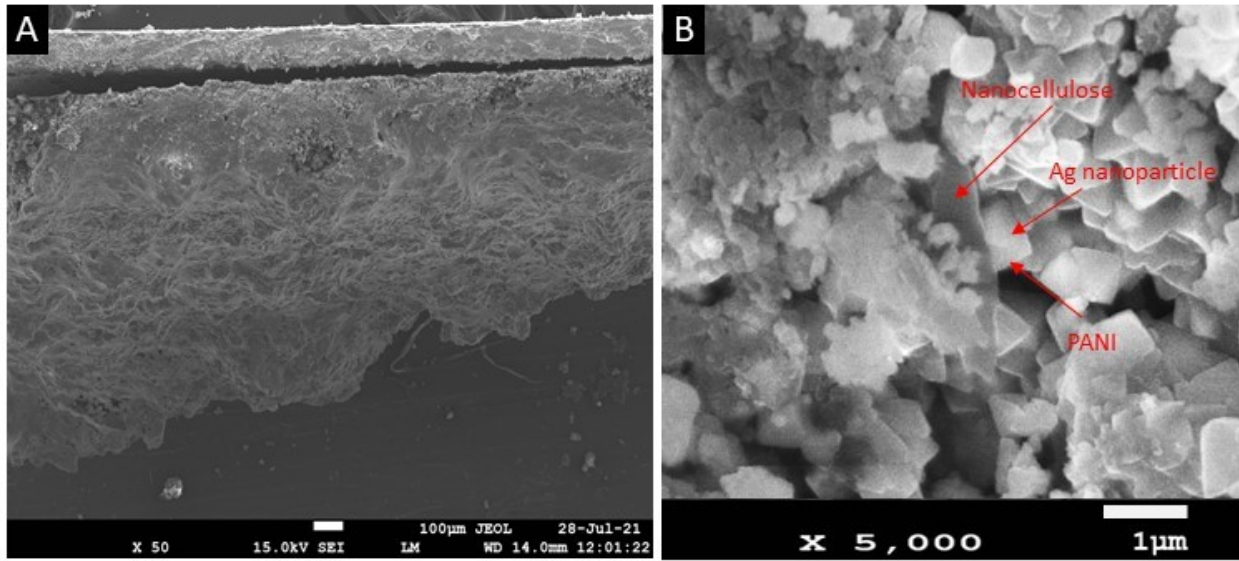


Fig. S6: Cross sectional FESEM images of Ag-PANI-NC at different magnifications.

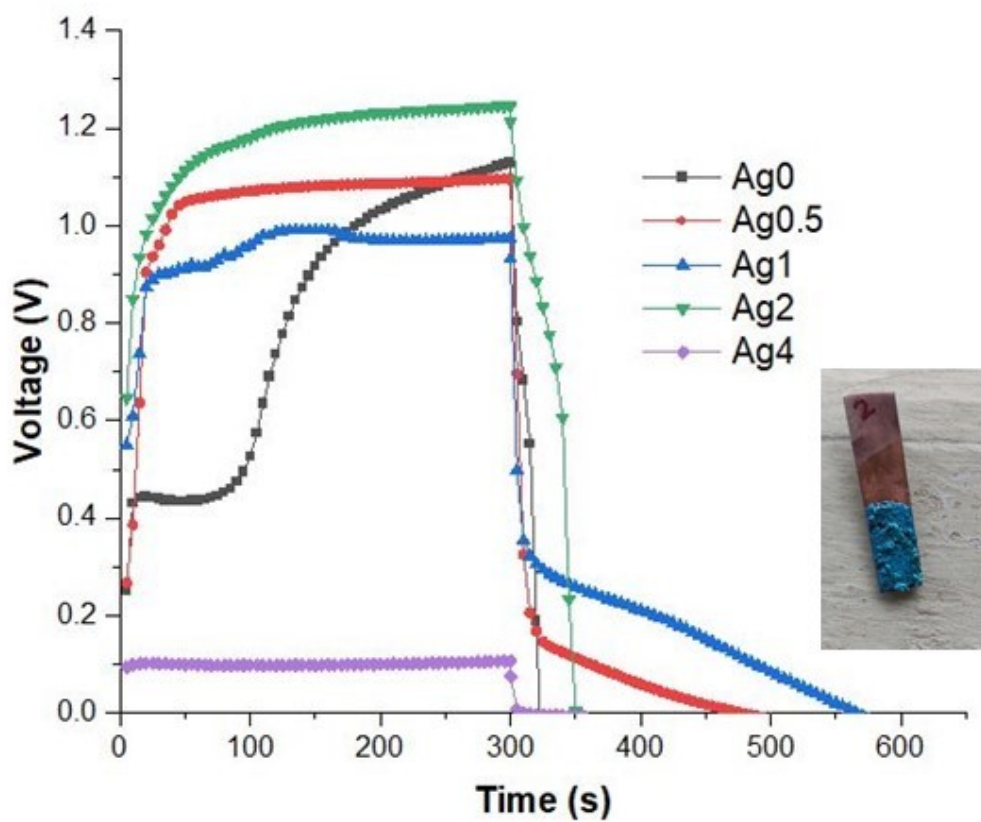


Fig S7: GCD performance comparison of Ag-PANI-NC electrodes with different Ag content. Inset corroded 4% Ag-PANI-NC electrode after the experiment.